

1 **GOLF CLUB HEAD WITH A VIBRATION-ABSORBING STRUCTURE**

2 **BACKGROUND OF THE INVENTION**

3 1. Field of the Invention

4 The present invention relates to a head for a golf club, and more
5 particularly to a golf club head with a vibration-absorbing structure.

6 2. Description of Related Art

7 A conventional golf club head generally has a hollow body which
8 resonates when a player strikes a ball. However, during the striking, the hollow
9 body also has intense vibration that transfers into the player's hands, that may
10 cause an uncomfortable sensation. For absorbing the vibration, the golf club
11 head is usually provided with a vibration-absorbing structure. However, because
12 the vibration-absorbing material cannot survive under the high temperatures that
13 occur during welding, the vibration-absorbing material must be priorly made and
14 received in a recess defined in the hollow body. Thereafter, the recess is covered
15 with a sealing member secured by fasteners under a high pressure.

16 However, the vibration-absorbing material not only has a high
17 manufacturing cost, it also cannot be tightly adhered in the recess under the high
18 pressure, so the head has an inadequate effect to absorb the vibration.

19 Therefore, the invention provides a golf club head to mitigate or obviate
20 the aforementioned problems.

21 **SUMMARY OF THE INVENTION**

22 The main objective of the present invention is to provide a golf club
23 head which can effectively absorb vibration during striking of a ball.

24 Other objectives, advantages and novel features of the invention will

1 become more apparent from the following detailed description when taken in
2 conjunction with the accompanying drawings.

3 BRIEF DESCRIPTION OF THE DRAWINGS

4 Fig. 1 is an exploded perspective view of a golf club head in accordance
5 with the invention;

6 Fig. 2 is a schematically cross sectional view of the golf club in Fig. 1;

7 Fig. 3 is a schematically cross sectional view showing a process of
8 injecting vibration-absorbing material into a recess of the golf club head;

9 Fig. 4 is a schematically cross sectional view of a finished golf club head
10 of the invention;

11 Fig. 5 is a cross sectional front view of Fig. 4;

12 Fig. 6 is an exploded perspective view of another embodiment in
13 accordance with the invention;

14 Fig. 7 is a schematically cross sectional view of the second embodiment
15 of Fig. 6;

16 Fig. 8 is a schematically cross sectional view showing the process of
17 injecting vibration-absorbing material into a recess of the golf club head; and

18 Fig. 9 is a schematically cross sectional view of the finished golf club
19 head of the second embodiment.

20 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

21 With reference to Figs. 1 and 2, a golf club head (10) in accordance with
22 the present invention has a hollow body with a heel, a toe, a top, a bottom, a
23 strike plate, and a rear portion.

24 An elongated recess (12), with an L-like cross section, is defined at the

1 bottom of the body and extends to the rear portion of the body. An aperture (121)
2 is defined through the elongated recess (12) and is in communication with the
3 interior of the body. The elongated recess (12) is covered with an L-like strip (11)
4 integrated with the body by means of welding. A tab (14) is formed at the rear
5 portion of the body, and an inlet (141) is defined through the tab (14) and is in
6 communication with the recess (12).

7 With reference to Figs. 3 to 5, the recess (12) is fully filled with
8 vibration-absorbing material (15) through the inlet (141) by means of injecting,
9 and air in the recess (12) will be discharged from the aperture (121). Thereafter, a
10 sealing element (142) with adhesive is engaged with the inlet (141) for enclosing
11 the recess (12). A passage (1421) is longitudinally defined through the sealing
12 element (142), and the redundant air and adhesive can be discharged from the
13 passage (1421). After the adhesive has solidified, the part of the tab (14)
14 protruded from the rear portion of the body is removed to finish the head (10).
15 Therefore, the head (10) of the present invention can not only have a pleasant
16 impact sound, but also can absorb vibration when a player strikes a ball.

17 With reference to Figs. 6 and 7, in another embodiment of the invention,
18 the head (10') also has a hollow body. A recess (22) is defined at the rear portion
19 of the body and covered with a strip (21) integrated with the body. An aperture
20 (221) is defined through a periphery defining the recess (22) and is in
21 communication with the interior of the body. A tab (24) is formed at the top of
22 the body, and has an inlet (241) defined through the tab (24) and is in
23 communication with the recess (22).

24 With reference to Figs. 8 and 9, the recess (22) is also fully filled with

1 the vibration-absorbing material (15) through the inlet (241), and air in the recess
2 (22) will be discharged from the aperture (221). Thereafter, a sealing element
3 (242) with adhesive is engaged in the inlet (241) for sealing the recess (12). A
4 passage (2421) is longitudinally defined through the sealing element (242), and
5 the redundant air and adhesive can be discharged from the passage (2421). After
6 the adhesive has solidified, the part of the tab (24) protruded from the rear
7 portion of the body is removed to finish the head (10).

8 According to teaching of the invention, it will be known by those skilled
9 in the art that the recess also can be defined at the heel, the toe, the top or other
10 appropriate portions of the body (not shown in these figures), which will not
11 depart from the scope of the present invention.

12 It is to be understood, however, that even though numerous
13 characteristics and advantages of the present invention have been set forth in the
14 foregoing description, together with details of the structure and function of the
15 invention, the disclosure is illustrative only, and changes may be made in detail,
16 especially in matters of shape, size, and arrangement of parts within the
17 principles of the invention to the full extent indicated by the broad general
18 meaning of the terms in which the appended claims are expressed.